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04/02/2004

Dethe Elza

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PERKINS COIE LLP

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EXAMINER

BOTTS, MICHAEL K

ART UNIT

PAPER NUMBER

2176

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/817,013	Applicant(s) ELZA ET AL.	
	Examiner Michael K. Botts	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-65 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/7/06; 7/20/06; 7/20/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is a Non-Final Office Action. This action is responsive to the following communication: Non-Provisional Application, which was filed on March 2, 2004.
2. Claims 1-65 have been examined, with claims 1, 13, 26, 30, 37, and 53 being the independent claims.
3. The Specification is objected to.
4. The Drawings are objected to.
5. Claims 1-65 are rejected.

Information Disclosure Statement

6. Signed and dated copies of applicant's IDS, which were filed on March 7, 2006, July 20, 2006 (first IDS), and July 20, 2006 (second IDS) are attached to this Office Action.

In a document identified as Transmittal of Previously Filed Information Disclosure Statement (IDS), which was filed on July 20, 2006, Applicants request the Examiner to "acknowledge the previous filing of the enclosed Information Disclosure Statement, which was received by the PTO on July 26, 2004." The Examiner notes that no such IDS appears in the file. The Examiner further notes that there may have been a good faith attempt to file an IDS, which may not have been properly filed. Applicant's are encouraged to re-file the IDS with the appropriate attached prior art references, if any.

It is also noted that the IDS, which were filed on March 7, 2006, and July 20, 2006 included citations to the same prior art references. Applicants are encouraged to carefully review IDS submissions to avoid duplicate submissions.

The Specification

7. Applicant is reminded of the requirement to update the status (pending, allowed, etc.) of all parent priority applications in the first line of the specification, when appropriate, and the status of all citations of U.S. filed applications in the specification should also be updated, when appropriate.

8. The specification is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. See, paragraphs [0004] and [0008]. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

9. Paragraphs [00123]-[00125] and figure 9 appear to disclose a decision tree for a "mutation" routine. The logic in the decision tree appears to be in error. Specifically, it appears that the flow of a "yes" from item 906 should go to item 908, not 916. Also, it appears that a "no" from item 904 should go to item 918, not 908. The confusion may be due at least in part from the omission of some of the choices from the decision tree, specifically items 904 and 906. Appropriate correction is required.

10. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawing Objections

11. The drawings are objected to because of the specific reasons cited below. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because of the following reasons:

Regarding all Figures, generally: Lead lines are generally missing. Lead lines are required for each reference character except for those that indicate the surface or cross section on which they are placed. See MPEP 608.02(q). Applicants are required to review all figures and make appropriate corrections in order to comply with 37 CFR 1.121(d) and MPEP 608.02(q).

Regarding Figures 3, 7B, 7C, 7D, 15, 16, 17, and 18: Reference numbers to the items therein are necessary to understand the figures. See, 35 U.S.C. 113.

Regarding Figure 1: Items 106, 108, and 112 contain labels within shaded regions. Numbers, letters, and reference characters should not be placed upon shaded surfaces. See, MPEP 608.02(p)(3).

Regarding Figure 3: Two items are labeled "302." The same reference character must never be used to designate different parts. See, MPEP 608.02(p)(5). It is suggested that if the parts are similar, applicants may identify the parts as "302A" and "302B," or adopt a similar distinctive identification scheme.

Regarding Figures 3 and 4: Parts of Figure 4 appear to be an expanded view of part of Figure 3, but the relationship between the Figures is not clear. It is assumed that Applicants intended to further illustrate the relationships between items on Figure 3 in Figure 4, and based on that assumption, Applicants are directed to clearly show that relationship. See, MPEP 608(h) for guidance in showing exploded and partial views.

Further regarding Figures 3 and 4: It appears that items in Figure 3 also appear in Figure 4, but under different identification numbers. The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character. See, MPEP 608.02(p)(4). For example, the same items with multiple reference numbers include: 302 as 401; 304 as 407; 306 as 413; 310 as 410; and, many other multiple numbers. Applicants are required to review all Figures and make appropriate correction such that the identification numbers are uniform and consistent.

Regarding Figure 4: Items 418, 420, and 422 are not related to the rest of the figure. The disclosure identifies relationships for the items, but such relationships are not identified in the drawings. Specifically, item 418 is disclosed to relate to DDOM Client 407 through the DDOM protocol adapter and Message layer 412, but no such relationship is shown in the drawing. See, Specification, paragraph [0080]. Similarly, relationships are disclosed in paragraphs [0085] for items 420 and 422, but such relationships are not shown in the drawing. Appropriate correction is required.

Regarding Figure 7A: This Figure appears to be an exploded view of the "Server: MutateTree Routine" identified in Figure 10A, item 1014. Appropriate correction is required to properly identify the relationship of Figure 7A to Figure 10A and to make the reference numbers uniform and consistent. See, MPEP 608.02(h) and 608.02(p)(4).

Regarding Figure 8: This appears to be a full or partial exploded view of the "Broadcast" as disclosed in Figure 4, item 422. The relationship, if any, of this Figure must be clarified in relation to any other figures or items. See, MPEP 609.02(h).

Regarding Figure 9: The decision flow is incomplete. Specifically, decision elements leading from items 904 and 906 are missing. In addition, it is unclear but appears from comparing Figure 9 to the disclosure, [00123], that the flow arrow from 908 to 916 should be to 908 instead, and if so, an appropriate correction should be made. Appropriate correction to accurately reflect the decision flow is required.

Regarding Figure 10A: It appears that items 1014 and 1016 are condensations of full or partial views disclosed in Figures 7A and 10B respectively. See, MPEP 608.02(h). Appropriate correction to accurately reflect the relationship between the views is required.

Regarding Figure 10B: As discussed above, it appears that Figure 10B is a full or partial exploded view of Figure 10A, item 1016. Appropriate correction to accurately reflect the relationship between the views is required.

Further regarding Figure 10B: Item 1068 does not appear in the disclosure. Reference characters not mentioned in the description shall not appear in the drawings. See, MPEP 608.02(p)(5). Appropriate correction is required.

Regarding Figure 13: Item 1300 does not appear in the disclosure. Reference characters not mentioned in the description shall not appear in the drawings. See, MPEP 608.02(p)(5). Appropriate correction is required.

Regarding Figure 14: Items 1407, 1409, 1411, 1412, and 1413 do not appear in the disclosure. Reference characters not mentioned in the description shall not appear in the drawings. See, MPEP 608.02(p)(5). Appropriate correction is required.

Further regarding Figure 14: The disclosure discusses item "1400" as being shown in Figure 14, but "1400" does not appear in that Figure. See, disclosure paragraph [00137]. Reference characters mentioned in the description must appear in the drawings. See, MPEP 608.02(p)(5). Appropriate correction is required.

Regarding Figures 16, 17, and 18: These drawings appear to present a flow of data or information, but it is unclear what is being shown and to where the various flow lines lead. See, 35 U.S.C. 113. As is noted above, reference numbers should assist in making the figures more clear. It is also suggested that Applicants consider using alternative flow chart diagrams to show illustrate the invention.

In that there were so many corrections and clarifications noted in the drawings, Applicants are directed to review all drawings to ensure that they meet the law and rules for such drawings. In making their corrections, Applicants are cautioned against introducing any new matter into any new Figures.

12. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In that there were so many corrections and clarifications noted in the drawings, Applicants are directed to review all drawings to ensure that they meet the law and rules for such drawings. In making their corrections, Applicants are cautioned against introducing any new matter into any new Figures.

Claims Rejections – 35 U.S.C. 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. **Claim 50** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 50 specifies: "The method of claim 49 wherein the user is a client-side application program that implements business logic". However, the only teaching in the specification regarding "business logic" teaches "server side" business logic, stating as follows: "The routine may check server-side business logic associated with the document to determine whether the node should be created." See, disclosure, paragraph [00123].

14. In the interest of compact prosecution, the application is further examined against the prior art, as stated below, upon the assumption that the applicants may overcome the above stated rejection under 35 U.S.C. 112, first paragraph.

Claims Rejections – 35 U.S.C. 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. **Claims 3, 6, 7, 14-17, 40, 47, 53, 60, and 62** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claims 3, 14, 40, 47, 53, 60, and 62**, the phrase "relating to" renders the claim indefinite because it is unclear what condition or terms of relation are part of the claimed invention such that the metes and bounds of the claim are clearly identified as to what is related or how it is related. See MPEP § 2173.05.

Regarding claims 6, 7, and 15-17, the term “frame” is used. The term “frame” is not found to be specifically defined in the specification, and was known to one of ordinary skill in the art at the time of the invention to be subject to a broad range of diverse definitions from a packet of information in synchronous or asynchronous communications, a single screen-sized image, part of an on-screen window, a user controllable part of a window, etc. See, “Microsoft Computer Dictionary, fifth edition, Microsoft Press, 2002, definition of “frame.”

16. In the interest of compact prosecution, the application is further examined against the prior art, as stated below, upon the assumption that the applicants may overcome the above stated rejection under 35 U.S.C. 112, second paragraph.

Examiner's Comments

17. It is noted, in general, that the claim specifications are comprised of obvious combinations of various versioning protocols from a variety of patents. In general, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine these well known database management protocols to result in the combinations specified in the claims.

18. The following comments state the Examiner's understanding of the non-standard terms and phrases specified in the claims. These terms and phrases were not found to

be expressly defined in the specification, and the Examiner's understanding is based on a review of the terms and phrases in context in the claims and specification combined with the Examiner's understanding of the terms of art as would have been understood by one of ordinary skill in the art at the time of the invention. The identified terms and phrases will be read as stated for the remainder of this Office Action.

The invention is generally directed toward what is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as "revision control," "version control," "source control," or "source code management (SCM)."

The claims, such as independent claim 1, specify a "server computing device," which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a "repository" or "depo" located on a server.

The claims, such as independent claim 13, specify a "local copy," which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a "working copy" or a document similar conceptually to a "sandbox."

The claims, such as independent claim 1, specify a "requested mutation," which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as an edited document or code submitted to the "server computing device" or "repository."

The claims, such as claim 1, specify a "sending a message to the server"

computing device containing the requested mutation,” which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a “commit,” “check-in,” “ci,” “install,” or “submit.”

The claims, such as independent claim 1, specify a “mutation” that is either “successfully applied” or “not successfully applied,” which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a “merge” or “integration,” wherein the working copy of the files is merged with the files in the repository following a “check-in” to create a new version of the document or code.

The claims, such as independent claim 1, specify a “retrieving a local copy” of the document, which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a “checking out,” wherein the user accesses a portion of all or part of the document in order to create a new version of the document or code.

The claims, such as dependent claim 6, specify a “frame,” which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as “the part of an on-screen window (title bar and other elements) that is controlled by the operating system rather than by the application running in the window.” See, “Microsoft Computer Dictionary, fifth edition, Microsoft Press, 2002, definition 6 of “frame.”

The claims, such as independent claim 65, specify a “snapshot,” which is

Art Unit: 2176

believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a version or revision as of a certain point in time. The "snapshot" may be determined by the version number or by condition of the document or code as of a certain point in time.

Practically, a version or revision is consistent across a period of time, so the same document or code would be accessed by either a version or a time designation.

The claims, such as dependent claims 27 and 54, specify an "answer," which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as any type of a response to a submission of a proposed modification.

The claims, such as dependent claim 64, specify a "log of mutations," which is believed by the Examiner to have been intended by Applicants to what was commonly known to one of ordinary skill in the art at the time of the invention as a "change list," "changelist," or "change set," and which identifies the changes made in any single "commit" or the changes made within a sequential view of the document or code.

Claims Rejection – 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2176

19. Claims 1-24, 26-30, 32, 34-36, and 53-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, et al. (U.S. Patent 5,623,659, issued April 22, 1997) [hereinafter "Shi"], and further in view of Bray, et al. (U.S. Patent 6,529,905 B1, issued March 4, 2003) [hereinafter "Bray"], and further in view of Shoens, et al. (U.S. Patent 4,965,719, issued October 23, 1990) [hereinafter "Shoens"].

Regarding independent claim 1, Shi in view of Bray and further in view of Shoens teaches:

A method in a client computing device for enabling authors to work on a hierarchical document, comprising:

retrieving a local copy of the hierarchical document from a server computing device;

receiving an indication of a requested mutation from a user;

sending a message to the server computing device containing the requested mutation;

when the requested mutation is successfully applied by the server computing device to the hierarchical document, receiving a message from the server computing device acknowledging a successful mutation to the hierarchical document; and

when the requested mutation is not successfully applied by the server computing device to the hierarchical document, receiving a message from the server computing device containing an indication to revert the local copy of the

hierarchical document to a current form of the hierarchical document on the server computing device.

(It is noted that the claim specifies a standard revision protocol of “checking out” all or part of a document or code, and attempting to “check in” the revised document or code. See, Shi, col. 1, lines 9-47, teaching checking out a part of a document for purposes of preparing revisions. See also, Shi, col. 1, lines 9-47, teaching submitting revisions to a document as the “indication of a requested mutation. And see, Shi, col. 4, lines 38-50, teaching the “check-in” command.

Shi does not expressly teach a “hierarchical document.”

Bray teaches a structured authoring system for editing a hierarchical data structure in a multi-user environment. See, Bray, claim 1.

Shi and Bray are combinable in that they both involve the same art of document or code manipulation in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined to teachings of Shi and Bray.

The suggestion or motivation for the combination is that Bray merely teaches a different type of data structure, whereas Shi is not limited to any particular data structure. Shi teaches a compatible methodology for multi-user editing of a document, whereas Bray merely teaches that the multi-user editing may be performed with a particular locking structure on a hierarchical document.

The combination of Shi and Bray does not expressly teach a message system protocol to indicate successful or failed revision of the code.

Shoens teaches a system of document or code revision to hierarchical documents involving messaging.

See, Shoens, col. 1, line 19 through col. 2, line 14, teaching that it was known by one of ordinary skill in the art at the time of the invention to send messages indicating changes to a document or code.

Specifically, see, Shoens, col. 2, lines 5-14, teaching notification of a successful revision to other holders of locks on the same block. Shoens do not expressly teach that the requesting user is notified of a successful or failed revision, but it would have been obvious to one of ordinary skill in the art to give a user such a notification.

Shi and Bray are combinable with Shoens in that they all involve the same art of enabling multiple user modifications of documents or code.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Shi and Shoens.

The suggestion or motivation for the combination is that Shi teaches a message system connected with the granting of lock permissions (see, Shi, col. 4, line 18 through col. 9, line 64, teaching the use of "notes") Bray teaches the use of hierarchical document, and Shoens teaches the use of messages relating to revisions. Each teaching is an obvious and complementary extension to the teachings of the others. In addition, Shoens, like Bray, teaches the use of hierarchical documents. See, Shoens, col. 8, lines 48-51, teaching that the invention may be applied to a hierarchical document or a relational system.

Therefore, it would have been obvious to one of ordinary skill in the art at the

Art Unit: 2176

time of the invention to have combined the teachings of Shi, Bray, and Shoens to result in the invention specified in claim 1.)

Regarding **dependent claim 2**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein an application program is the user.

(See, Bray, col. 1, lines 53-54, teaching that the "user" may be a computer process or an actual person at a workstation.)

Regarding **dependent claim 3**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein an author is using an application program relating to the hierarchical document.

(See, Shi, col. 1, lines 16-21, teaching an author using the application program of CAD/CAM.)

Regarding **dependent claim 4**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 3 wherein the author makes a change to the document using the application program and further wherein the indication of a requested mutation relates to the change.

(See also, Shi, col. 1, lines 9-47, teaching submitting revisions to a document as the

Art Unit: 2176

"indication of a requested mutation. And see, Shi, col. 4, lines 38-50, teaching the "check-in" command.)

Regarding **dependent claim 5**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein messages are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 6**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 5 wherein the message is contained in a frame.

(It is noted that upon examination of the claims and specification, the Examiner believes Applicants intended the term "frame" to mean "the part of an on-screen window (title bar and other elements) that is controlled by the operating system rather than by the application running in the window." See, "Microsoft Computer Dictionary, fifth edition, Microsoft Press, 2002, definition 6 of "frame."

Shi, Bray, and Shoens teach the invention of claim 5, but do not expressly teach wherein the message is contained in a frame.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a frame, containing the message from the operating system controlling the multi-user editing access, to communicate with a user creating revisions

Art Unit: 2176

of a document or code on a local computer using an application, such as CAD/CAM or a code or document editing program.

The suggestion or motivation for such modification is the obvious and beneficial purpose that frames were known by one of ordinary skill in the art at the time of the invention to be used for precisely this purpose, to communicate from the operating system to an application running on a computer.)

Regarding **dependent claim 7**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 6 wherein the frame comprises multiple messages.

(She, Bray, and Shoens teach the invention of claim 6, with the obvious modification, but do not expressly teach multiple messages.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include multiple messages in a frame for the obvious and beneficial purpose of concisely communicating with a user when more than one message is to be directed to that user.)

Regarding **dependent claim 8**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 5 wherein when the message from the server computing device is received, the message contains no nodes that the author is not privileged to read.

Art Unit: 2176

(It would have been obvious to one of ordinary skill in the art to limit the message to an author to exclude nodes that the author is not privileged to read for the obvious and beneficial purpose of keeping the author from reading any nodes that he or she is not privileged to read.)

Regarding **dependent claim 9**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the requested mutation is not successfully applied when the user is not privileged to make the requested mutation.

(It would have been obvious to one of ordinary skill in the art at the time of the invention to not modify a document or code by someone who is not privileged to make the modification for the obvious and beneficial purpose of not permitting unauthorized persons from modifying the document or code.)

Regarding **dependent claim 10**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the requested mutation is not successfully applied when the requested mutation conflicts with a mutation previously made to the hierarchical document on the server computing device.

(See, Shi, col. 5, lines 48-56, teaching that the system ensures that conflicting changes are not made.)

Art Unit: 2176

Regarding **dependent claim 11**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the message containing an indication to revert the document comprises sufficient information to determine the current form of the hierarchical document on the server computing device.

(It would have been obvious to one of ordinary skill in the art at the time of the invention to refer to a current version of a document following an unsuccessful modification for the obvious and beneficial purpose of ensuring that the user is provided with a current version of the code or document for the user's editing or modification.)

Regarding **dependent claim 12**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 1 wherein the message acknowledging the mutation includes additional mutations to be applied to the local copy of the hierarchical document.

(See, Shoens, col. 2, lines 5-14, teaching that users are notified of changes to a block of document or code. It would have been obvious to one of ordinary skill in the art to modify the teachings of Shoens to include additional message along the lines of those to the other users notifying a user who has successfully modified a document or code that other modifications have been successfully applied, for the obvious and beneficial purpose of keeping the code in use by the editors in as current of a version as possible.)

Art Unit: 2176

Regarding **independent claim 13**, Shi in view of Bray and further in view of Shoens teaches:

A system in a client computing device for enabling authors to work on a hierarchical document, comprising:

a component that retrieves from a server computing device the hierarchical document and making a local copy of the retrieved hierarchical document;

a component that receives from a user an indication of a requested mutation to the local copy of the hierarchical document;

a component that sends to the server computing device a message containing the requested mutation; and

a component that receives from the server computing device a message indicating whether the requested mutation was successfully applied to the hierarchical document.

(Claim 13 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.)

Regarding **dependent claim 14**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 wherein when the requested mutation was not successfully applied, the message received from the server contains information relating to a current form of the hierarchical document sufficient to mutate the

local copy to reflect the current form of the hierarchical document on the server computing device.

(Claim 14 incorporates substantially similar subject matter as claimed in claim 11 and is rejected along the same rationale.)

Regarding **dependent claim 15**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 wherein the message from the server computing device arrives in a frame.

(Claim 15 incorporates substantially similar subject matter as claimed in claim 6 and is rejected along the same rationale.)

Regarding **dependent claim 16**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 15 wherein the frame comprises multiple messages.

(Claim 16 incorporates substantially similar subject matter as claimed in claim 7 and is rejected along the same rationale.)

Regarding **dependent claim 17**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 15 wherein the frame has an indication of a first message identifier and a last message identifier.

(Claim 17 incorporates substantially similar subject matter as claimed in claim 6 and, in further view of the following is rejected along the same rationale. See, Shi, col. 9, lines 21-32, teaching time stamping the check-in of modifications. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Shi to include in the message an indication of a first and last message, for the obvious and beneficial purpose of communicating to a user the chronological order of the modifications.)

Regarding **dependent claim 18**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 17 wherein the component that receives the message from the server determines whether a message was missed.

(Claim 18 incorporates substantially similar subject matter as claimed in claims 17 and 30 and, in further view of the following is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the time stamp and order of the messages to determine if a message was missing for the obvious and beneficial purpose of ensuring that a user was provided with accurate information regarding the modification of the document or code.)

Regarding **dependent claim 19**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 18 wherein a message is missed when the first

message identifier exceeds, by more than a predetermined number, an identifier of a last message previously received from the server computing device.

(The Examiner reads this claim as specifying looking as a sequential listing of messages and determining whether any of the sequential listings are missing, e.g.: messages 1, 2, 3, and 5, would obviously be missing message 4. It would have been obvious to one of ordinary skill in the art at the time of the invention to examine a sequential listing of message to determine whether a message was missing for the obvious and beneficial purpose of ensuring that all messages are accounted for.)

Regarding **dependent claim 20**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 19 wherein the predetermined number is one.

(Claim 20 incorporates substantially similar subject matter as claimed in claim 19 and, in further view of the following is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention that if one number in a sequence is missing, that a message is missing.)

Regarding **dependent claim 21**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 13 including a component for determining whether a DDOM fragment can be used to handle the requested mutation.

(It is noted that a DDOM fragment is defined in the specification as follows: "DDOM fragments are subtrees that are under the client's control and are not yet attached to the master document. When the client performs mutation operations on a DDOM fragment, the client does not need to interact with the server. Clients may begin interacting with the server in relation to mutation operations on a DDOM fragment after the fragment is attached to the document. The DDOM client may use DDOM fragments to assemble a number of nodes and mutation operations before forwarding the fragments and operations to the server." See, disclosure, paragraph [0072].

It is further noted that a DDOM is a

The Examiner reads this claim as specifying that the user may modify a sub-tree of a document in the user's application prior to submitting the modification to the server. It would have been obvious to one of ordinary skill in the art at the time of the invention that the working copy of a document or code may be modified by the user prior to being "checked-in" or "committed" to the server version, including the use of a DDOM fragment or other subtree data structure for the purpose of editing.)

Regarding **dependent claim 22**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein the DDOM fragment can be used before a node is added to the hierarchical document.

(Claim 22 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **dependent claim 23**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein a node is added to the DDOM fragment before the DDOM fragment is added to the hierarchical document.

(Claim 23 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **dependent claim 24**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 21 wherein a mutation is made in relation to the node.

(Claim 24 incorporates substantially similar subject matter as claimed in claim 21 and is rejected along the same rationale.)

Regarding **independent claim 26**, Shi in view of Bray and further in view of Shoens teaches:

A method in a server computing device for enabling authors to work on a hierarchical document, comprising:

for each author, providing to a client computing device a copy of the hierarchical document;

receiving from the client computing device an indication of a mutation request;

attempting to apply the received mutation request to the hierarchical document;

when the mutation cannot be applied to the hierarchical document, sending to the client computing device a message containing an indication to revert the client copy of the hierarchical document to a current form of the hierarchical document; and

when the mutation can be applied to the hierarchical document, sending to the client computing device a message containing an indication of an applied mutation.

(Claim 26 incorporates substantially similar subject matter as claimed in claim 13 and is rejected along the same rationale.)

Regarding **dependent claim 27**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 26 wherein the indication of the applied mutation is sent as an answer to the client computing device.

(Claim 27 incorporates substantially similar subject matter as claimed in claim 26 and, in further view of the following, is rejected along the same rationale. The "answer" is read in its broadest reasonable interpretation as being the "message" specified in claim 26.)

Regarding **dependent claim 28**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 26 wherein the indication of the applied mutation is sent as a broadcast message to a second client computing device having a copy of the hierarchical document.

(See, Shoens, col. 2, lines 5-14, teaching broadcasting the indication of applied mutations to other client computers.)

Regarding **dependent claim 29**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 28 wherein when the broadcast message is received by the second client computing device after the second client computing device has sent a requested mutation message but before the second client computing device receives an answer, the mutation indicated in the broadcast message is applied to the client copy of the hierarchical document.

(Claim 29 incorporates substantially similar subject matter as claimed in claim 28 and, in further view of the following, is rejected along the same rationale. See, Shoens, col. 1, line 19 through col. 2, line 51, teaching that the modifications operate on a hierarchical ordered basis. It would have been obvious to one of ordinary skill in the art at the time of the invention that the ordered sequential invention of Shoens could result in a first user committing changes to the system followed by a second user, and followed by the first user again. In such an obvious fact situation, the second user would receive a "mutation" broadcast message about the first user after sending a "mutation" request.)

Art Unit: 2176

Regarding **independent claim 30**, Shi in view of Bray and further in view of Shoens teaches:

A method in a distributed computer system for sharing a hierarchical document, comprising:

receiving at a server computer system a hierarchical document from a document source client computer system;

distributing to a client computer system other than the document source client computer system the hierarchical document;

receiving from a client computer system a mutation request to be applied to the hierarchical document;

sending to the client computer system from which the request was received a response message containing an answer; and

sending to a connected client computer system other than the client computer system from which the mutation request was received a broadcast message.

(Claim 30 incorporates substantially similar subject matter as claimed in claims 27 and 28 and is rejected along the same rationale.)

Regarding **dependent claim 32**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the mutation request is received from the document source computer system.

Art Unit: 2176

(Claim 32 incorporates substantially similar subject matter as claimed in claim 27 and is rejected along the same rationale.)

Regarding **dependent claim 34**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the mutation request is to delete a node.

(See, Shi, col. 8, lines 1-22, teaching deletion of a node.)

Regarding **dependent claim 35**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 34 wherein the node is placed into a pool of deleted nodes.

(Claim 35 incorporates substantially similar subject matter as claimed in claim 34 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to have placed deleted material into a “pool of deleted nodes” such method as was commonly known to one of ordinary skill in the art at the time of the invention as a “trash” or “garbage” structure, for the obvious and beneficial purpose of being able to recover the deleted material if necessary.)

Regarding **dependent claim 36**, Shi in view of Bray and further in view of Shoens teaches:

The method of claim 30 wherein the pool is periodically cleared.

(Claim 36 incorporates substantially similar subject matter as claimed in claim 35 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention that a “trash” or “garbage” structure may be periodically emptied, or the data saved within deleted, for the obvious and beneficial purpose of clearing the structure for future use.)

Regarding **independent claim 53**, Shi in view of Bray and further in view of Shoens teaches:

A system for enabling authors to work on a hierarchical document, comprising:

- a component that exchanges messages with a client computing device;*
- a component that loads a hierarchical document; and*
- a component that receives a message relating to a mutation request from the client computing device, determines whether the mutation request can be applied to the hierarchical document, applies the mutation to the hierarchical document, and sends an indication message of an applied mutation to the client computing device.*

(Claim 53 incorporates substantially similar subject matter as claimed in claims 1 and 26 and is rejected along the same rationale.)

Art Unit: 2176

Regarding **dependent claim 54**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the indication message of an applied mutation is an answer message to a client that made the mutation request.

(Claim 54 incorporates substantially similar subject matter as claimed in claim 27 and is rejected along the same rationale.)

Regarding **dependent claim 55**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the indication message of an applied mutation is a broadcast message to a client that did not make the mutation request.

(Claim 55 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.)

Regarding **dependent claim 56**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes receiving an indication from a server-side application that implements business logic.

(Claim 58 incorporates substantially similar subject matter as claimed in claim 1 and, in further consideration of the following, is rejected along the same rationale. Claim 1 teaches the business logic of sending a message if the modification is successfully

Art Unit: 2176

applied or sending a different message if the modification is not applied.)

Regarding **dependent claim 57**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes checking a privilege.

(Claim 57 incorporates substantially similar subject matter as claimed in claim 8 and, in further consideration of the following, is rejected along the same rationale. It is inherent in denying a mutation on the basis of privilege of the user that a check of that privilege is made by the server.)

Regarding **dependent claim 58**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the hierarchical document is represented as a tree.

(Claim 58 incorporates substantially similar subject matter as claimed in claim 1 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time the invention was made that a hierarchical document may be represented as a tree, in that a tree is merely a visualization technique to describe a hierarchical document.)

Art Unit: 2176

Regarding **dependent claim 59**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 58 wherein the tree is represented in XML.

(See, Bray, figures 3 and 4, and col. 1, lines 44-50, teaching the use of XML in a tree structure.)

Regarding **dependent claim 60**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message is represented in XML.

(See, Bray, col. 1, lines 44-50, teaching the use of XML in the system.)

Regarding **dependent claim 61**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message includes mutations relating to multiple nodes.

(Claim 61 incorporates substantially similar subject matter as claimed in claim 35 and is rejected along the same rationale.)

Regarding **dependent claim 62**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein a message includes mutations relating to a node.

Art Unit: 2176

(Claim 62 incorporates substantially similar subject matter as claimed in claim 34 and, in further consideration of the following, is rejected along the same rationale.)

Regarding **dependent claim 63**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 wherein the determining includes checking whether a node is in the document.

(Claim 63 incorporates substantially similar subject matter as claimed in claim 34 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to check whether a node is in the document before attempting to mutate or modify the node for the obvious and beneficial purpose that the node must be identified as the target of the modification action.)

Regarding **dependent claim 64**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 53 including a component for storing the applied mutation in a log of mutations.

(Claim 64 incorporates substantially similar subject matter as claimed in claim 53 and, in further consideration of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to store a log of mutations for the obvious and beneficial purpose of enabling users to revert to

Art Unit: 2176

prior versions for further revisions or for correction of newly discovered problems with the current version.)

Regarding **dependent claim 65**, Shi in view of Bray and further in view of Shoens teaches:

The system of claim 64 including a component for creating a view of the hierarchical document based on a snapshot of the hierarchical document and the applied mutation stored in the log of mutations.

(Claim 65 incorporates substantially similar subject matter as claimed in claim 64 and, in further consideration of the following, is rejected along the same rationale. A "snapshot" is read by the Examiner as having been intended by Applicants to refer to a prior version of the document. It would have been obvious to one of ordinary skill in the art at the time of the invention to have stored prior versions, and further, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided for the user to see the prior versions for the obvious and beneficial purpose of enabling users to revert to prior versions for further revisions or for correction of newly discovered problems with the current version.)

20. Claims 25, 31, 33, and 37-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, et al. (U.S. Patent 5,623,659, issued April 22, 1997) [hereinafter "Shi"], and further in view of Bray, et al. (U.S. Patent 6,529,905 B1, issued March 4, 2003) [hereinafter "Bray"], and further in view of Shoens, et al.

(U.S. Patent 4,965,719, issued October 23, 1990) [hereinafter "Shoens"] as applied to claims 1-24 above, and further in view of Cramer, et al. (U.S. Patent 5,390,316, Issued February 14, 1995) [hereinafter "Cramer"].

Regarding **dependent claim 25**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The system of claim 21 wherein the message containing the requested mutation is not sent to the server computing device.

(Shi in view of Bray and further in view of Shoens teaches the invention of claim 21, but does not expressly teach wherein the message containing the requested mutation is not sent to the server computing device.

It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation where a mutation message is sent to another user's computer in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein messages for document or code modification are exchanged in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

Art Unit: 2176

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 31**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 30 wherein the distributing occurs when a client computer system other than the document source client computer system requests the hierarchical document.

(Shi in view of Bray and further in view of Shoens teaches the invention of claim 21, but does not expressly teach wherein the distributing occurs when a client computer system other than the document source client computer system requests the hierarchical document.

It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation where a distribution is sent to another user's

Art Unit: 2176

computer in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein messages for document or code modification are exchanged in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 33**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 30 wherein the mutation request is received from a client computer system other than the document source computer system.

(Claim 33 incorporates substantially similar subject matter as claimed in claim 25 and is rejected along the same rationale.)

Regarding **independent claim 37**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

A method performed by a computing device for enabling authors to work on a hierarchical document, comprising:

retrieving the hierarchical document from another computing device;

modifying the retrieved hierarchical document;

sending an indication of the modification to the other computing device;

and

when the sent modification cannot be applied to the hierarchical document on the other computing device, reverting the hierarchical document to a current form of the hierarchical document on the other computing device.

(It is noted that the Examiner reads this claim in its broadest reasonable interpretation as including the situation in a peer-to-peer multi-user environment, as opposed to the server/client multi-user environment.

Shi in view of Bray and further in view of Shoens teaches modification of a hierarchical document and messaging regarding modifications, but do not expressly teach a peer-to-peer multi-user environment.

Cramer teaches a multi-user document or code revision environment wherein the hierarchical document and messages for document or code modification are exchanged

Art Unit: 2176

in a peer-to-peer environment. See, Cramer, col. 2, lines 2-39, teaching the peer-to-peer messaging to revise a document.

Shi, Bray, and Shoens are combinable with Cramer in that they all involve the same art of document or code editing in a multi-user environment.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the references to result in the invention specified in claim 25.

The suggestion or motivation for the combination is that Shi, Bray, and Shoens teach multi-user document modification in a client/server environment, and Cramer teaches an improvement on the prior art involving only peer users.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teachings of the references to result in the invention specified in claim 25.)

Regarding **dependent claim 38**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes adding a node.

(See, Bray, figure 4, and col. 59, line 51 through col. 8, line 12, teaching editing and teaching adding a node by that editing.

Regarding **dependent claim 39**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

Art Unit: 2176

The method of claim 37 wherein the modifying includes removing a node.

(See, Bray, col. 8, line 61 through col. 9, line 64, teaching removing or deleting a node.)

Regarding **dependent claim 40**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes changing values relating to an attribute of a node.

(See, Bray, figure 4, and col. 59, line 51 through col. 9, line 64, teaching editing as modifying a node. It would have been obvious to one of ordinary skill in the art at the time of the invention that editing an XML or other document with attributes included the ability to edit the attributes, for the obvious and beneficial purpose of enabling usual and expected editing capabilities to a user.)

Regarding **dependent claim 41**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the indication is a message comprising a mutation request.

(Claim 41 incorporates substantially similar subject matter as claimed in claim 37 and is rejected along the same rationale.)

Regarding **dependent claim 42**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 41 wherein contents of the message are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 43**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 41 including receiving an indication that the modification was successfully applied when the sent modification is applied on the other computing device.

(Claim 43 incorporates substantially similar subject matter as claimed in claim 41 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to respond to a request for a mutation, or revision, with a message indicating that the mutation was successful for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 44**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 43 wherein the indication is a message.

(Claim 44 incorporates substantially similar subject matter as claimed in claim 43 and is rejected along the same rationale.)

Regarding **dependent claim 45**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 44 where contents of the message are represented in XML.

(See, Bray, col. 43-50, teaching the use of XML as a standard for the mutation message.)

Regarding **dependent claim 46**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 including receiving an indication of a failure when the sent modification cannot be applied on the other computing device.

(Claim 46 incorporates substantially similar subject matter as claimed in claim 41 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to respond to a request for a mutation, or revision, with a message indicating that the mutation was not successful for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 47**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 46 wherein the indication includes information

relating to the hierarchical document sufficient to determine the current form of the hierarchical document on the other computing device.

(Claim 47 incorporates substantially similar subject matter as claimed in claim 47 and, in further view of the following, is rejected along the same rationale. It would have been obvious to one of ordinary skill in the art at the time of the invention to respond to an unsuccessful request for a mutation, or revision, with a message indicating that the mutation was not successful and to indicate the current version of the document for the obvious and beneficial purpose of effective communication between the clients to indicate that the current status of the mutation request.)

Regarding **dependent claim 48**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying includes calling a method of an XML document object model.

(Claim 48 incorporates substantially similar subject matter as claimed in claim 37 and, further in view of the following, is rejected along the same rationale. It is noted that a "method," as the term is used in this claim, is read by the Examiner as having been intended by Applicants to refer to a process performed on an object in a object-oriented program, and the term "method" in this claim will be so read for the remainder of this Office Action. See, "Microsoft Computer Dictionary," fifth edition, Microsoft Press, 2002, definition of "method.")

Art Unit: 2176

Regarding **dependent claim 49**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 37 wherein the modifying is performed by a user.

(See, Cramer, col. 2, lines 12-15, teaching that the message sender of the modification may be a user.)

Regarding **dependent claim 50**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user is a client-side application program that implements business logic.

(Claim 50 incorporates substantially similar subject matter as claimed in claim 37 and, further in view of the following, is rejected along the same rationale. Claim 37 teaches the business logic of sending a message if the modification is successfully applied or sending a different message if the modification is not applied.)

Regarding **dependent claim 51**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user is a human.

(See, Bray, col. 1, lines 53-54, teaching that the "user" may be a computer process or an actual person at a workstation.)

Art Unit: 2176

Regarding **dependent claim 52**, Shi in view of Bray and in view of Shoens and further in view of Cramer teaches:

The method of claim 49 wherein the user uses an application program interface of the client component.

(See, Shi, col. 1, lines 16-21, teaching an author using the application program of CAD/CAM. It would have been obvious to one of ordinary skill in the art at the time of the invention that a CAD system inherently includes a program interface.)

21. It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See, MPEP 2123.

Conclusion

22. The following prior art is made of record and not relied upon that is considered pertinent to Applicants' disclosure:

Kanai, et al. (U.S. Patent 6,834,275 B2), teaching file updating and committing.

LeCrone, et al. (U.S. Patent 6,543,001 B2), teaching maintaining file coherency.

Chan (U.S. Patent 6,529,906 B1), teaching locking.

Kanai, et al. (U.S. Patent file update processing.

Moshfeghi (U.S. Patent 6,476,833 B1), teaching windows and frames.

Art Unit: 2176

Baisley, et al. (U.S. Patent 6,453,324 B1), teaching versioning attributes.

Sarkar (U.S. Patent 6,418,448 B1), teaching markup language versioning.

Baisley, et al. (U.S. Patent 6,415,299 B1), teaching versioning object oriented data.

Jeyaraman (U.S. Patent 6,311,187 B1), teaching updating nodes.

Meltzer, et al. (U.S. Patent 6,125,391), teaching versioning XML documents.

Raz, et al. (U.S. Patent 5,913,227), teaching access management.

Adams (U.S. Patent 5,781,731) teaching broadcasting messages.

Catino (U.S. Patent 5,319,780), teaching locking systems.

Coleman, et al. (U.S. Patent 5,261,089), teaching commit procedures.

Henson, et al. (U.S. Patent 5,226,159), teaching file lock communications.

Obermarck, et al. (U.S. Patent 4,399,504), teaching multi-user versioning.

Adya, et al. (U.S. Patent Application Publication 2002/0188605 A1), teaching a serverless distributed file system for versioning documents.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael K. Botts whose telephone number is 571-272-5533. The examiner can normally be reached on Monday through Friday 8:00-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2176

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HEATHER R. HERNDON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100